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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,652	09/05/2000	Lie-Fen Shyur	4910-8	7362

7590

01/28/2002

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EXAMINER

PAK, YONG D

ART UNIT

PAPER NUMBER

1652

DATE MAILED: 01/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/654,652

Applicant(s)

SHYUR ET AL.

Examin r

Yong Pak

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

The amendment filed on January 2, 2002, has been entered.

Claims 1-19 are pending.

Election/Restrictions

Applicant's election with traverse of Group I (claims 1-5) in Paper No. 10 is acknowledged. The traversal is on the ground(s) that the truncated glucanase of Group I-III (claims 1-7) are not patentably distinct. Claims 1-7 are now in Group I, claims 8-10 are in Group II and claims 11-19 are in Group III.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility.

The claimed invention is directed to non-statutory subject matter. Claims 1-7 read on a product of nature because these truncated glucanases can exist in nature. This rejection can be overcome by amending claim 1 as "An isolated truncated glucanase", for example.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1-2 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1-2 are drawn to truncated glucanases. Therefore, these claims encompass truncated glucanases from a genus of glucanases derived from *Fibrobacter succinogenes*. The specification and art teach wildtype of 1,3-1,4-beta-D-glucan 4-glucanohydrolase (SEQ ID NO:3) from *F. succinogenes* but applicant does not disclose other glucanases of *F. succinogenes* from which to derived the truncated from of the enzyme. Applicants discloses two truncated 1,3-1,4-beta-D-glucan 4-glucanohydrolase, SEQ ID NO:1 and 2. The representative number of species is two and a description of only two member of this genus is not representative of the variants of the genus. Therefore, the specification does not disclose the identifying characteristics, which would allow one to recognize a truncated glucanase as being a truncated 1,3-1,4-beta-D-glucan 4-glucanohydrolase and not another species of truncated glucanase from *F. succinogenes*.

Given this lack of description of representative species encompassed by the genus of the claim, the specification fails to sufficiently describe the claimed invention in such full, clear, concise, and exact terms that a skilled artisan would recognize that applicants were not in possession of the inventions of claims 1-2.

Claims 1-2 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the truncated 1,3-1,4-beta-D-glucan 4-glucanohydrolases from *F. succinogenes* of SEQ ID NO:3, does not reasonably provide enablement for any truncated family of glucanases from *F. succinogenes*. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Factors to be considered in determining whether undue experimentation is required are summarized in In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir. 1988). They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

The specification teaches truncated glucanase of 1,3-1,4-beta-D-glucan 4-glucanohydrolase from *F. succinogenes* of SEQ ID NO:3. However, it lacks guidance for truncated glucanases from any glucanases from *F. succinogenes*.

Despite knowledge in the art for the isolation of polypeptides, the specification fails to provide guidance regarding how to make truncated glucanases not derived from *F. succinogenes* 1,3-1,4-beta-D-glucan 4-glucanohydrolase (SEQ ID NO:3). Therefore, the breadth of these claims is much larger than the scope enable by the specification.

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Therefore, one of ordinary skill would require guidance beyond that provided by the specification in order to make any truncated glucanases from *F. succinogenes*. Without such guidance, the experimentation left to those skilled in the art is undue.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear which specific amino acid sequences are encompassed by the claim. The metes and bounds of the claim are unclear because various polypeptides can be "substantially" the sequence of SEQ ID NO:1, 2 or 3.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-3 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et al.

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Li et al. (U.S. Patent No. 6,103,511) teach a truncated glucanase of at least 200 amino acid residues forming a linear sequence to the amino acid sequence of a wild-type glucanase from *Fibrobacter succinogenes*, SEQ ID NO:3 of the instant invention, and contains no PXSSSS repeats (Column 33-34). The truncated glucanase of Li et al. is also substantially identical to SEQ ID NO:1 and 2 of the instant invention. Therefore, the glucanase of Li et al. anticipates claims 1-3 and 6-7.

No claims are allowed.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 703-308-9363. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy, can be reached on (703) 308-3804. The fax phone number for the organization where this application or proceeding is assigned is 703-746-3173.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Yong Pak
Patent Examiner

January 23, 2002


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